The Challenge of Achieving Joint Command and Control in a Network Centric Environment

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Raytheon Company

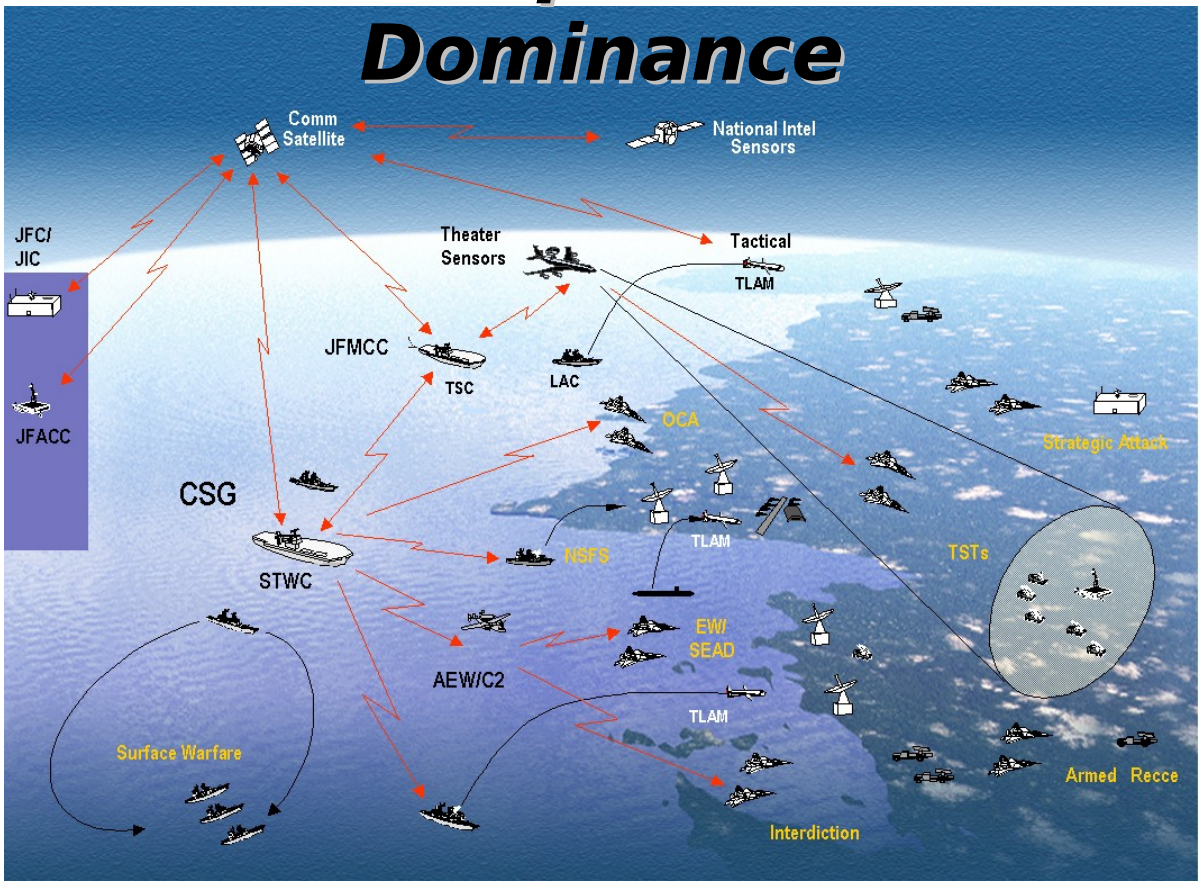
Joint Command and Control Campaign Lead

Agenda

- **Operational Context for Joint Command and Control**
- The Joint Command and Control Acquisition Environment
- Govt and Industry challenges to the new acquisition environment
- Summary / conclusions

21st Century Warfighting Environment

Full Spectrum Dominance



- **Exploit every source – leverage what we have**
- **Provide shared situation awareness / understanding**
- **Support dominant speed of command**
- **Permit precise, synchronized execution**
- **Allow agility and flexibility**

Enabled By Network Centric Warfare

Video

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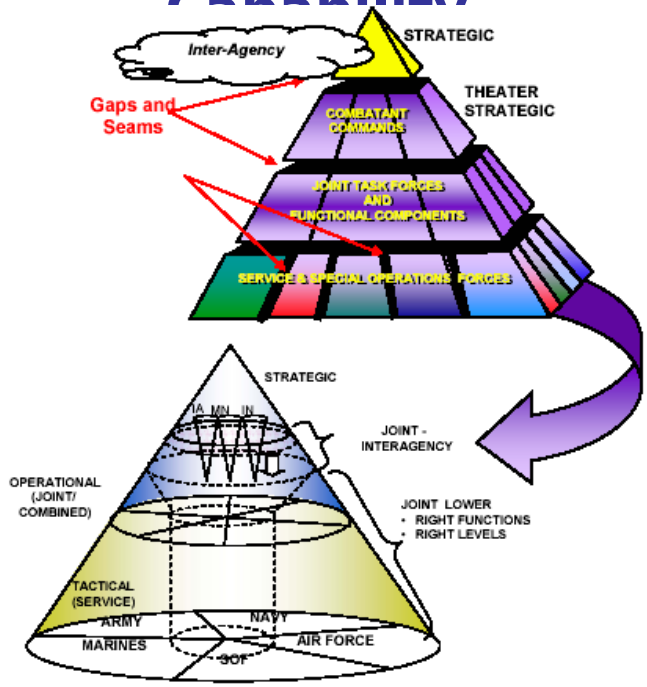
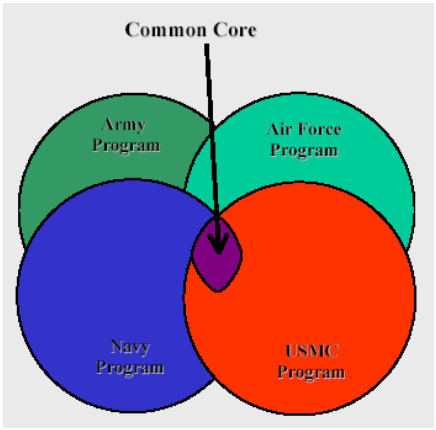
21st Century Acquisition Environment

OIF LL: Seamless Joint Capability

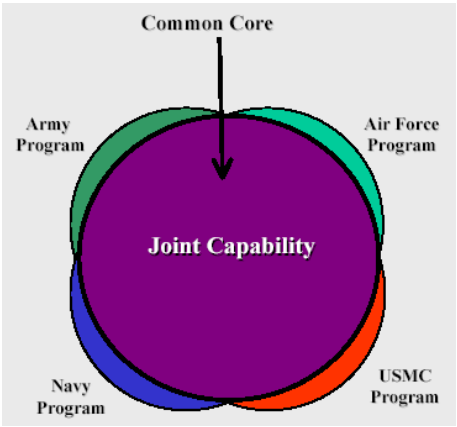


- *OIF lessons learned reinforce role of joint capabilities*
- *OIF lessons learned portrayed expanding requirements for core joint capabilities at strategic, operational and tactical levels*

"Old Think"

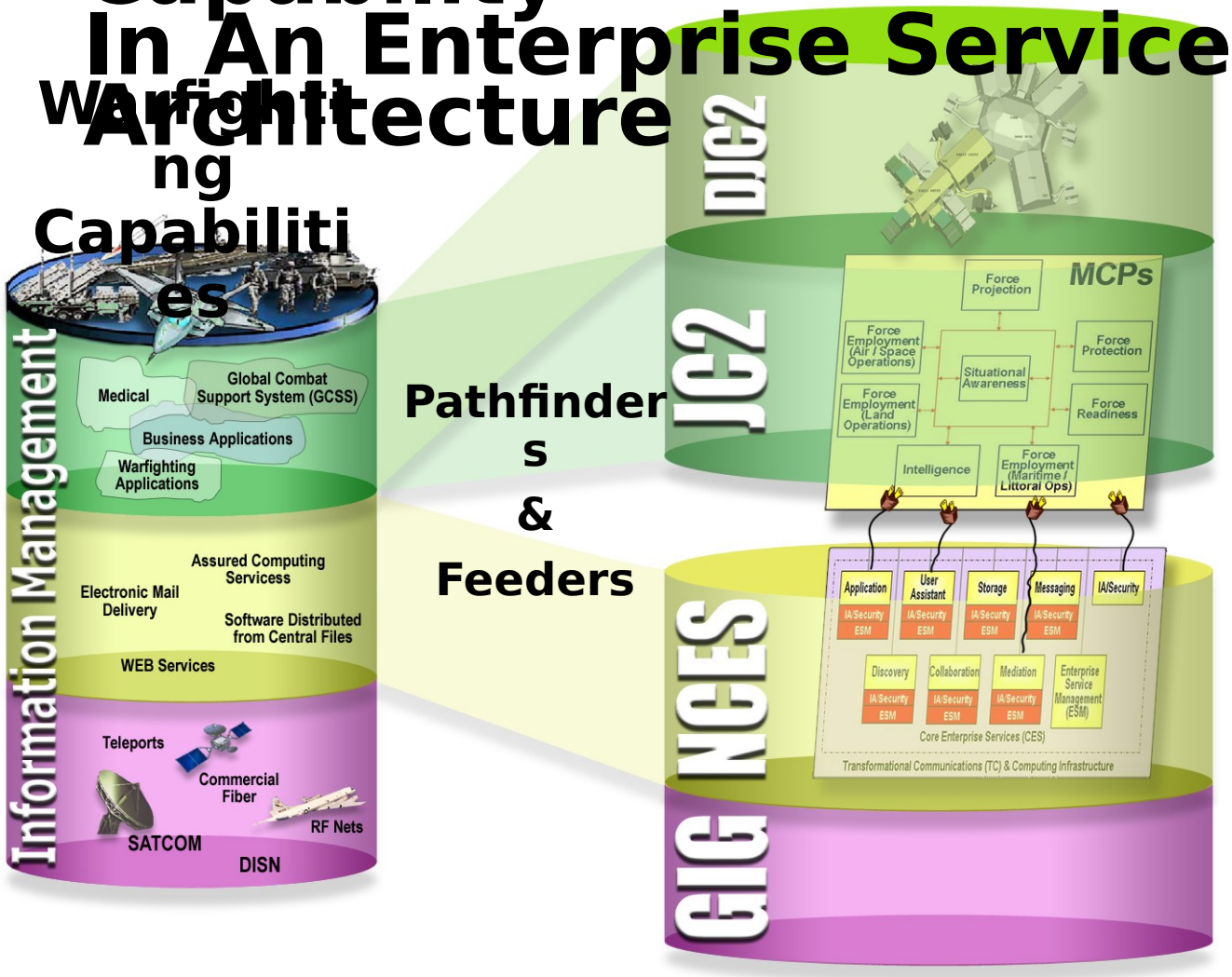


"New Think"



Paradigm Shift to "Born Joint"

Implementing Warfighting Capability In An Enterprise Services Architecture



JC2 Mission Capability Packages

Key warfighting applications for decision superiority

NCES

Common set of information services that provides for timely, ubiquitous edge user access to decision quality information within the Global Information Grid

JC2 and NCES Acquisitions Are Interdependent

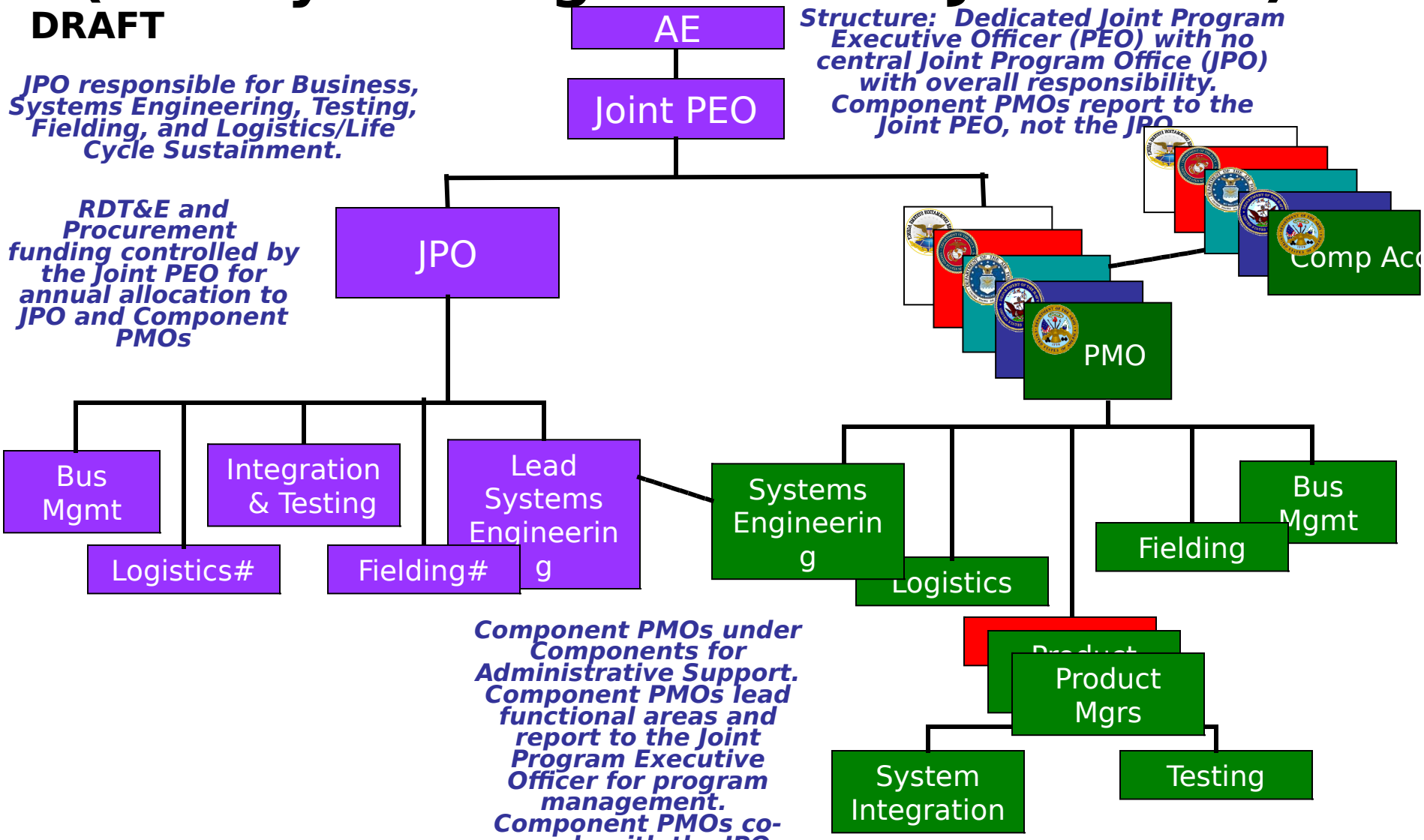
Possible Acquisition Structure*
(Family of Programs with Joint PEO)

DRAFT

JPO responsible for Business, Systems Engineering, Testing, Fielding, and Logistics/Life Cycle Sustainment.

RDT&E and Procurement funding controlled by the Joint PEO for annual allocation to JPO and Component PMOs

Structure: Dedicated Joint Program Executive Officer (PEO) with no central Joint Program Office (JPO) with overall responsibility. Component PMOs report to the Joint PEO, not the JPO



Component PMOs under Components for Administrative Support. Component PMOs lead functional areas and report to the Joint Program Executive Officer for program management. Component PMOs co-equals with the JPO

 # Overall Planning

***=From OSD/NII**

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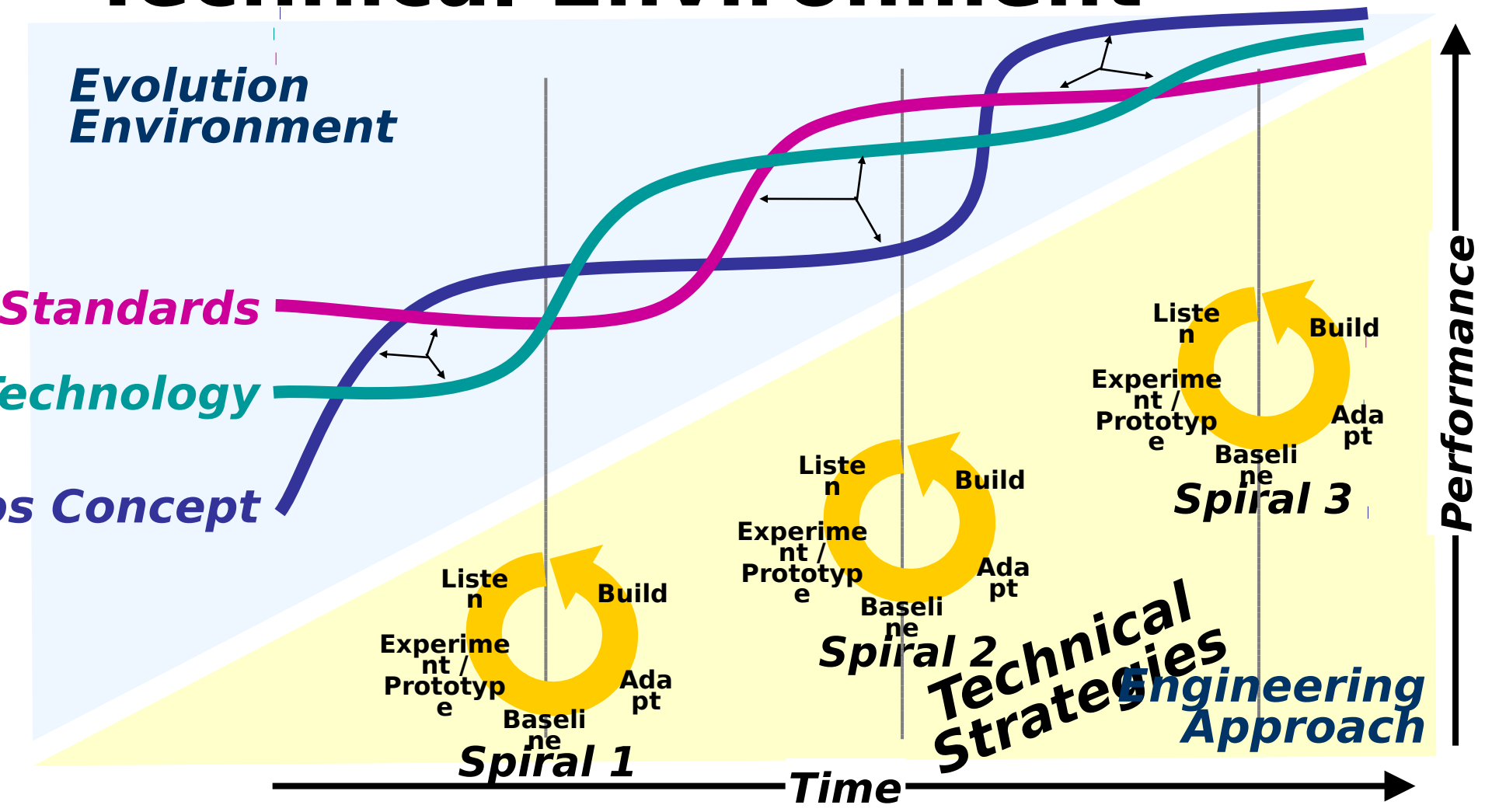
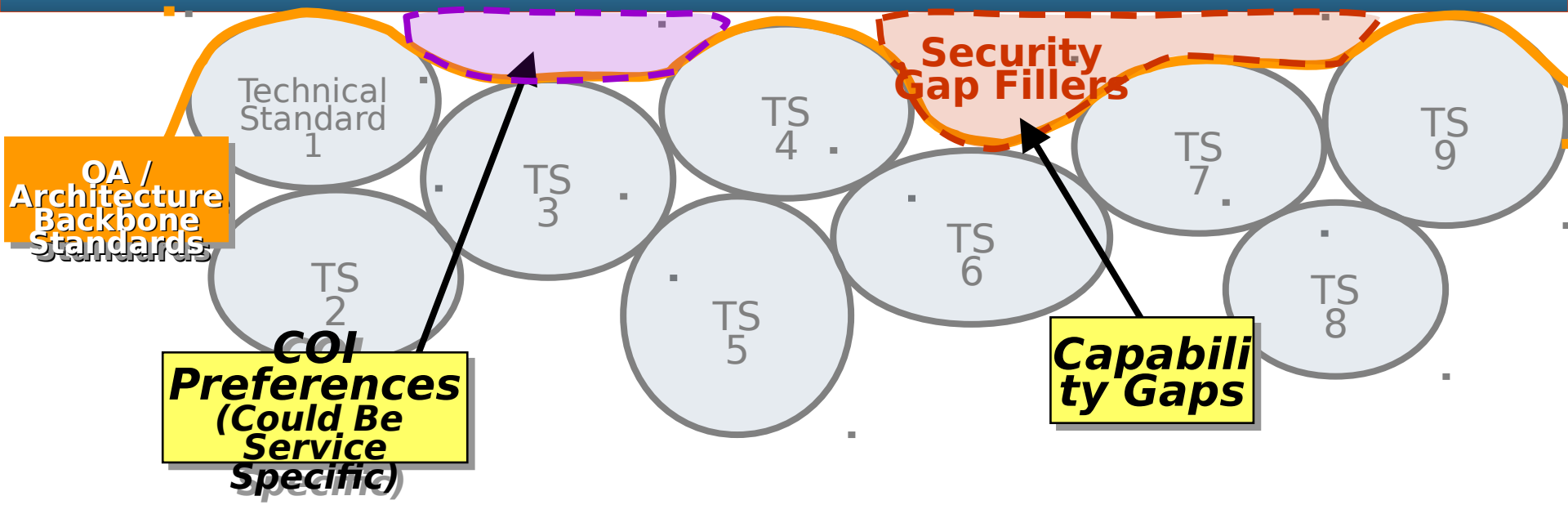
Technical Challenges:
Technical Environment



Technical Challenges:
JC2 / NCES Technical Standards Gap

Desired Core Service Capability
C2 ERA, NOA, SOSCOE, NESI



Development / Fielding in Parallel with Standards Evolution Creates Fiscal and Operational Risk

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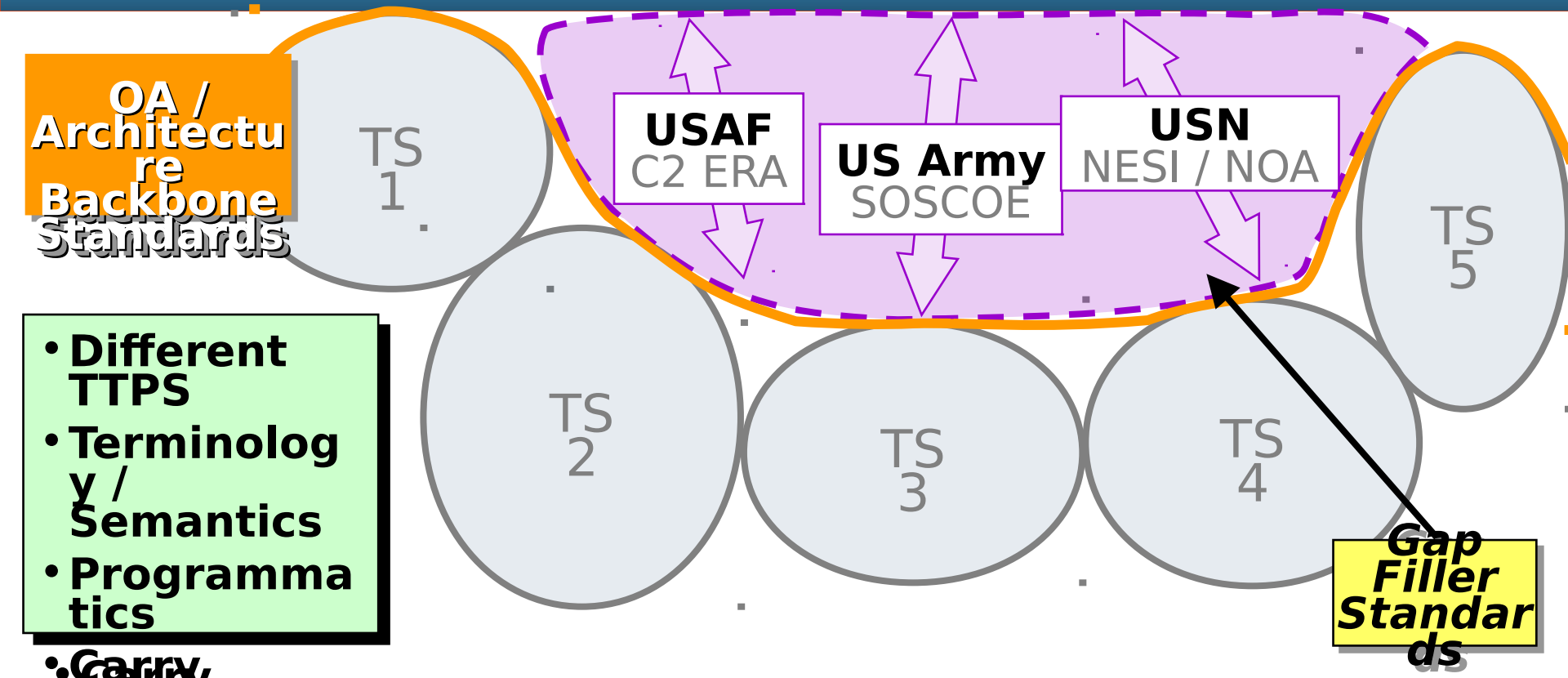
Technical Challenges:
Multiple Technical

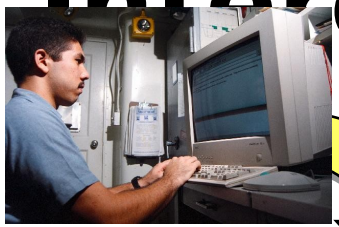
Desired Core Service Capability
C2 ERA, NOA, SOSCOE, NESI



- Different TTPS
- Terminology / Semantics
- Programmatics
- Carry Forward

Each Military Community is Trying to Fill Technical Standards Gaps

Joint Service Interoperability Challenge



COI Workflow Service

MCP-Defined Services Ex (SA)

Other COI Services (Includes Military Service Differences)

Gap

Desired Core Service Capabil

C2 ERA, NOA, SOSCOE, NESI

BEA WLI Basic Workflow

OA / DIB Standards

Satisfying Core Enterprise Service Criteria Does Not Assure COI Interoperability

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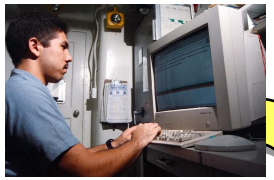
Joint Service
Interoperability Challenge



COI Collaboration Service

MCP-Defined Services Ex (SA)

Other COI Services

- Army Unique
- Navy Unique
- USAF Unique
- USMC Unique

Desired Core Service Capability
C2 ERA, NOA, SOSCOE, NESI

When Providing Operational COI Services, All Stakeholders Must Be Considered

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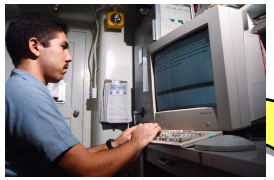
Joint Service **Interoperability Challenge**



COI Collaboration Service

MCP-Defined Services (S

Army Unique

Navy Unique

USAF Unique

USMC Unique

Other COI Services (Includes Military Service Differences)

Desired Core Service Capability
C2 ERA, NOA, SOSCOE, NESI

Providing Truly Joint Functional Services Requires Addressing All Service-Unique Needs

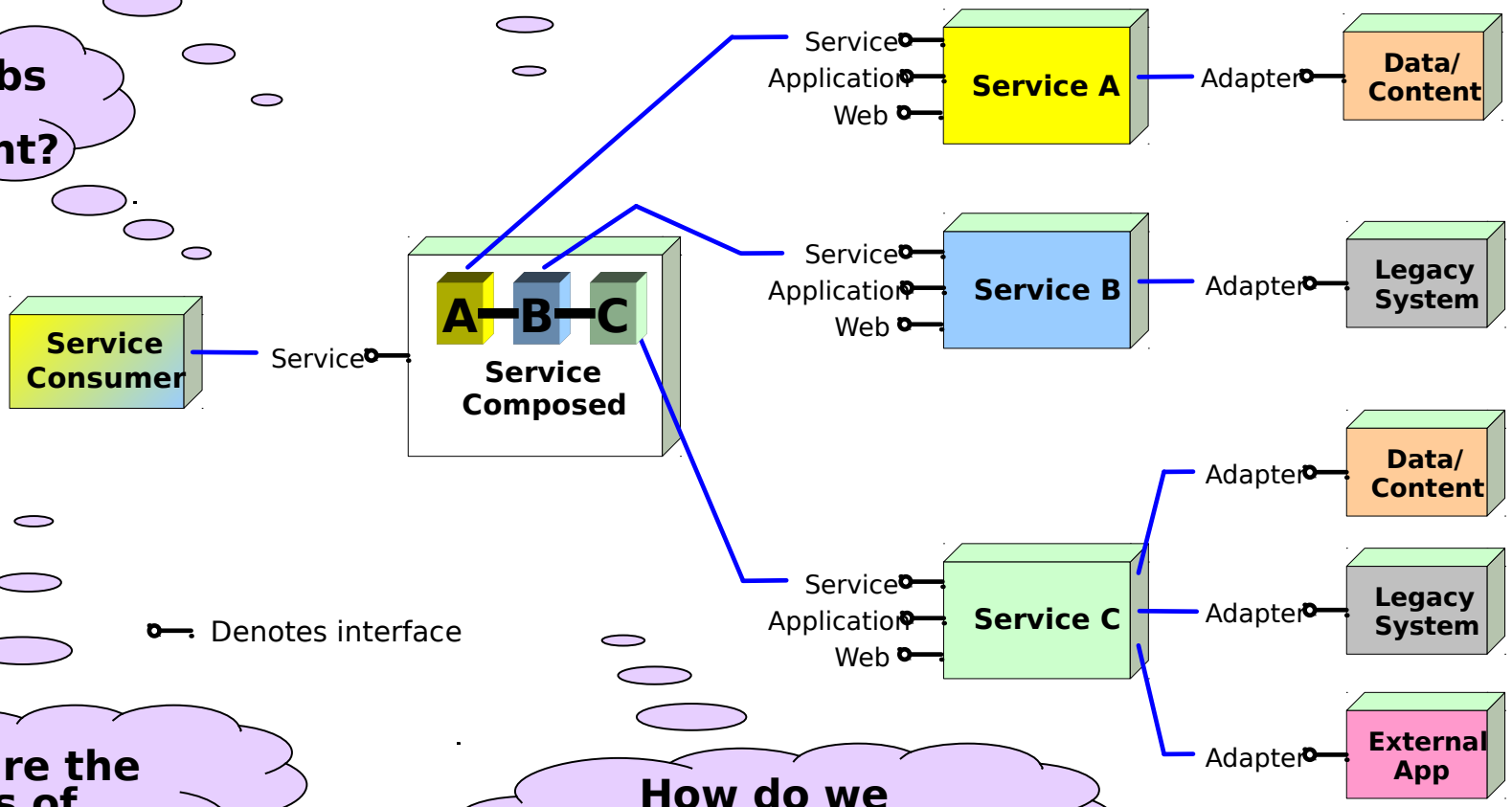
Acquisition Practices Challenges:
Acquisition of Composable Capability

How do we test?

How do we reward innovation?

How do we describe and test the work flows?

Who absorbs cost of development?



What are the roles of government and industry?

How do we measure success from users' perspectives?

Business Case Challenges: **Acquisition in an Open Architecture Environment**

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Benefits

- Makes warfighting sense
- Provides technical foundation for NCW
- Facilitates interoperability
- Facilitates non-proprietary solutions
- Enables rapid response to change in requirements
- Provides business opportunities as systems integrator

Challenges

- Cross-service requirements definition
- Joint acquisition strategy
- Contracting rigidity
- Leveraging commercial technologies, products, skills, and best practices for DoD enterprise outcomes
- Integrator role

Government Perspective

OA is less expensive

- Life cycle costs
- Dynamic reuse
- Non-proprietary
- Re-invigorates competition

Defense Industry Perspective

Business case is challenging

- Less emphasis on production quantity
- Cross-COI best of breed
- First on-scene
- Where's the ROI?

OA Provides Both Opportunity And Risk

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Roles

- **Gov't focus:**
  - Cross-DoD requirements coordination
  - MCP requirements definition
  - COI work flow definition
  - Technical Standards selection
  - Budget priorities and discipline
- **Industry strengths:**
  - Innovation
  - Engineering experience & discipline
  - Practical application of technology
  - DoD cross-customer technical solution coordination
  - Structured and organized for rapid capability delivery
- **Gov't / Industry partner in:**
  - Criteria for enterprise success
  - Innovative acquisition practices
  - User representation throughout development of capability

JC2 Development Will Involve Multiple DoD Organizations And Multiple Industry Participants

Bringing It All Together

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ENVIRONMENT

- Multiple players
- Rapid acquisition and short development
- Government expects spiral / incremental capability introduction
- Complex technical issues
- Limited resources – both money and personnel

WHAT WE NEED…

- Government / Industry partnering from capability definition through experimentation, fielding, and lifecycle maintenance
- Clearly defined roles and responsibilities
- Close coordination between requirements identifiers and solution developers
- Open and flexible technical solutions

Need Clarity of Acquisition Environment